

CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-18 (Canceled).

19. (Previously presented) The ceramic film of claim 26, wherein said dielectric constant is from 2.2 to 1.3.

20. (Previously presented) The ceramic film of claim 26, wherein a halide content is less than 500 ppb.

21. (Previously presented) The ceramic film of claim 26, wherein said metal content is less than 1 ppm.

22. (Previously presented) The ceramic film of claim 26, wherein said metal content is less than 100 ppb.

23. (Previously presented) The ceramic film of claim 26, having a porosity of about 40% to about 80%.

24. (Previously presented) The ceramic film of claim 26, having a porosity of about 55% to about 75%.

25. (Previously presented) A ceramic film produced by a process comprising:
preparing a film-forming fluid comprising a ceramic precursor, a catalyst, a surfactant and solvent(s);

depositing said film-forming fluid on said substrate; and

removing said solvent(s) from said film-forming fluid on said substrate to produce said ceramic film on said substrate,

wherein said ceramic film has a dielectric constant below 2.3, and a metal content of less than 500 ppm and wherein said film includes pores sufficiently ordered in a plane of the substrate that an X-ray diffraction pattern of said film shows a diffraction peak at a d spacing greater than about 44 Å.

26. (Previously presented) A ceramic film produced by a process comprising:

preparing a film-forming fluid comprising a ceramic precursor, a catalyst, a surfactant and solvent(s);

depositing said film-forming fluid on said substrate; and

removing said solvent(s) from said film-forming fluid on said substrate to produce said ceramic film on said substrate,

wherein said ceramic film has a dielectric constant below 2.3, and a metal content of less than 500 ppm and wherein said film does not include pores sufficiently ordered in a plane of the substrate such that an X-ray diffraction pattern of said film shows a diffraction peak.

27. (Canceled)

28. (Previously presented) The ceramic film of claim 35, wherein said dielectric constant is from 2.2 to 1.3.

29. (Previously presented) The ceramic film of claim 35, wherein a halide content is

less than 500 ppb.

30. (Previously presented) The ceramic film of claim 35, wherein said metal content is less than 1 ppm.

31. (Previously presented) The ceramic film of claim 35, wherein said metal content is less than 100 ppb.

32. (Previously presented) The ceramic film of claim 35, having a porosity of about 50% to about 80%.

33. (Previously presented) The ceramic film of claim 35, having a porosity of about 55% to about 75%.

34. (Previously presented) A ceramic film having a dielectric constant below 2.3, a metal content of less than 500 ppm and a porosity of about 40% to about 80%, wherein said film includes pores sufficiently ordered in a plane of the substrate that an X-ray diffraction pattern of said film shows a diffraction peak at a d spacing greater than about 44 Å.

35. (Previously presented) A ceramic film having a dielectric constant below 2.3, a metal content of less than 500 ppm and a porosity of about 40% to about 80%, wherein said film does not include pores sufficiently ordered in a plane of the substrate such that an X-ray diffraction pattern of said film shows a diffraction peak.

36. (Previously presented) The ceramic film of claim 34, having a median pore size less than about 50Å.

37. (Previously presented) The ceramic film of claim 35, having a median pore size

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less than about 50Å.